

INTERNATIONAL SEARCH REPORT

International Application No
PCT/US2004/011702

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7	F03G7/06	C23C14/20	C22F1/00	F16K31/00
-------	----------	-----------	----------	-----------

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7	F03G	C23C	C22F	F16K
-------	------	------	------	------

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 061 914 A (BUSCH JOHN D ET AL) 29 October 1991 (1991-10-29)	29
Y	column 1, line 53 – column 2, line 37 column 3, line 18 – column 7, line 37 abstract; figures 1-3 -----	1-24, 30-33
Y	US 5 825 275 A (SU QUANMIN ET AL) 20 October 1998 (1998-10-20)	1-24, 30-33
A	column 1, line 45 – column 3, line 24 abstract; figures 1,2 -----	29
X	US 4 864 824 A (GABRIEL KAIGHAM J ET AL) 12 September 1989 (1989-09-12)	34
Y	column 1, line 13 – column 1, line 28 column 2, line 5 – column 4, line 47 abstract; figures -----	1-24, 30-33
		-/-

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the International filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the International filing date but later than the priority date claimed

- *T* later document published after the International filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *&* document member of the same patent family

Date of the actual completion of the International search

Date of mailing of the International search report

13 September 2004

22/09/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl.
Fax: (+31-70) 340-3016

Authorized officer

O' Shea, G

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US2004/011702

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 96/39547 A (UNIV CALIFORNIA) 12 December 1996 (1996-12-12) page 5, line 1 – page 9, line 33 abstract; figures 1-3 -----	1-24, 30-33
Y	EP 0 161 952 A (SOURIAU & CIE) 21 November 1985 (1985-11-21) page 5, line 1 – page 9, line 24 page 12, line 20 – line 29 page 15, line 7 – page 16, line 7 abstract; claims 1-3; figures -----	1-24, 30-33
A	US 6 236 300 B1 (MINNERS R SJHON) 22 May 2001 (2001-05-22) column 3, line 14 – column 6, line 60 abstract; figures -----	1-37
A	US 5 325 880 A (JOHNSON A DAVID ET AL) 5 July 1994 (1994-07-05) column 4, line 7 – column 5, line 41 abstract; figures -----	35,36
A	US 4 538 642 A (SCHUTTEN HERMAN P ET AL) 3 September 1985 (1985-09-03) column 1, line 39 – column 2, line 35 abstract; figures -----	35,36

INTERNATIONAL SEARCH REPORT

 International Application No
 PCT/US2004/011702

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
US 5061914	A	29-10-1991	WO	9100608 A1	10-01-1991
US 5825275	A	20-10-1998	AU WO	4908497 A 9819320 A1	22-05-1998 07-05-1998
US 4864824	A	12-09-1989	NONE		
WO 9639547	A	12-12-1996	WO	9639547 A2	12-12-1996
EP 0161952	A	21-11-1985	FR CA DE EP JP US	2563055 A1 1251268 A1 3582819 D1 0161952 A2 61270359 A 4753689 A	18-10-1985 14-03-1989 20-06-1991 21-11-1985 29-11-1986 28-06-1988
US 6236300	B1	22-05-2001	US	2001010488 A1	02-08-2001
US 5325880	A	05-07-1994	NONE		
US 4538642	A	03-09-1985	NONE		